

INTERNATIONAL SEARCH REPORT

Int. Appl. No
 PCT/GB 00/00680

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K14/34 C12P21/02 C12N15/31 A61P35/00 //C12R1:16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K C12P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 925 792 A (RAPPUOLI RINO) 15 May 1990 (1990-05-15)	1-3, 5-8, 10, 23-25
Y	column 5, line 7 - line 30; claims 1-3; example 3 ---	4, 13-19, 21, 25-28
Y	US 5 728 383 A (YOULE RICHARD J ET AL) 17 March 1998 (1998-03-17)	4, 25-28
A	column 10, line 55 -column 12, line 49; claims 1-12; tables 3,4 ---	20
X	RAPPUOLI ET AL.: "Rapid purification of diphtheria toxin by phenyl sepharose and DEAE cellulose chromatography" JOURNAL OF CHROMATOGRAPHY, vol. 268, 1983, pages 543-548, XP002140797 page 543 -page 544 ---	11, 12
Y	-/-	13-19, 21



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

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Date of the actual completion of the international search

Date of mailing of the international search report

23 June 2000

10/07/2000

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORTInt'l. Application No
PCT/GB 00/00680**C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WEN ET AL.: "Diphtheria toxin-related alpha-melanocyte-stimulating hormone fusion toxin" THE JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 266, no. 19, 5 July 1991 (1991-07-05), pages 12289-12293, XP002140798 page 12290, column 1 -column 2; figures 2,3 -----	1-3,9, 22-25

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International Application No. PCT/GB 00 00680

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-10 completely 13-22,24 partially

A method for the production of diphtheria toxin by a microorganism, comprising adding glucose to a growing culture, preferably with 0.5-1.5 % yeast extract and with the pH maintained between 7.0 and 7.5. The above mentioned method where the diphtheria toxin is mutated, has a cytotoxic A subunit and preferably is CRM107.

2. Claims: 11,12,23 completely, 13-22,24 partially

A method of purifying diphtheria toxin from a culture of toxin producing bacteria, said method comprising contacting a toxin containing preparation with subsequently with an ion exchange matrix and a hydrophobic matrix. Diphtheria toxin produced by the above mentioned method. Diphtheria toxin having a purity of at least 98%

3. Claims: 25-28 completely

A method of preparing a diphtheria toxin conjugate comprising conjugating a diphtheria toxin with a cell specific binding or targeting moiety, preferably transferrin. Use of the above mentioned diphtheria toxin conjugate in the manufacture of a medicament. A method of treatment of CNS neoplasm comprising administering to a subject a diphtheria toxin conjugate.

INTERNATIONAL SEARCH REPORT

Information on patent family members

Int. Jonal Application No

PCT/GB 00/00680

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4925792	A	15-05-1990	IT 1193665 B IT 1167672 B BE 898864 A CA 1212642 A CH 660375 A DE 3404434 A ES 529698 D ES 8505408 A FR 2540516 A JP 2071707 C JP 7089950 B JP 60034918 A LU 85197 A NL 8400365 A, B,	21-07-1988 13-05-1987 08-08-1984 14-10-1986 15-04-1987 25-10-1984 16-05-1985 01-09-1985 10-08-1984 25-07-1996 04-10-1995 22-02-1985 08-11-1984 03-09-1984
US 5728383	A	17-03-1998	US 5352447 A US 5208021 A US 5792458 A CA 1338818 A	04-10-1994 04-05-1993 11-08-1998 31-12-1996